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# BETTER USE OF MAN LABOR ON THE FARM



A  
Few  
Suggestions  
—for  
Increasing  
Man  
Power  
—by  
Using  
Bigger  
Teams  
—and  
More  
Machines

FARMERS' BULLETIN 989

UNITED STATES  
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Contribution from the Office of  
Farm Management

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**I**F TWO MEN, driving one horse each, can combine the two horses into one team which one man can drive, and this team can do as much or more work than the two did singly, isn't it wise to combine them and save one man's time?

And if the farm is large and conditions warrant, isn't it wise to combine two of these two-horse teams into one, and save another man's time?

This bulletin shows in contrasting pictures from real farm life some ways in which man labor may be saved by the use of larger teams, tractors, and larger implements.

But before making these extra investments, it is wise for the farmer to consider well the cost, and the probable gain. If extra horses and implements cost more than they will produce, of course it would be unwise to make the investment.

# Better Use of Man Labor on the Farm

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## MACHINERY SAVES MAN LABOR

**W**ORK which is generally done in some parts of the country with the aid of machines that greatly increase the efficiency of the men employed is still largely done by hand in other parts. Machinery for most of the work in connection with preparing and tilling the soil is available in many sizes, and frequently two or more outfits, each requiring the time of one man, are seen working in the same field on operations for which implements of two or three times the size of those used could be employed with just as satisfactory results. There are few farm horses which a driver of ordinary intelligence cannot train to work in large teams in a few days' time, and most of the larger implements are little if any more complicated or difficult to handle than the small ones for the same work.

Where the farm is large, and it is not possible to procure sufficient labor, it will certainly be more profitable, as well as patriotic, to install machinery which will enable the operator to plant, cultivate, and harvest a full acreage of the crops best suited to his land and the needs of the country, than to let some of the land lie idle or, at best, have it prepared and worked poorly, and the crops out of season.

The illustrations on the following pages are all actual farm scenes showing the practices on large classes of farms. They show that, in many cases, a worker can double the work done by the use of a larger implement and a correspondingly greater amount of motive power, and sometimes the gain is considerably more than this. If the nature of the work and the machinery for doing it are such that the best implements will increase the efficiency of the worker by only 50 or even 25

per cent, their use may make possible an increase in acreage by just that amount, and at least will enable the farmer to do his work in less time and allow him to take better advantage of good weather if the season is unfavorable.

The aim of this bulletin is merely to show how some farmers succeed in tending large acreages with few hands. Farmers who have been using small implements and teams, or who have been doing work by hand when machines would do as well or better, may be able to use some of the suggestions here presented.

Can all farmers afford to buy extra horses and larger implements to save man labor? Of course, those whose farms require but one or two horses to do the ordinary work can seldom afford to do so. But such can secure this additional help by combining to purchase larger machinery, and doubling up their teams to operate it; or one, usually more skilled in operating machinery, or better able to purchase it, may own the larger implements, and do the work for several neighbor farmers, besides his own, to the advantage of all concerned. Both these methods have been tried out in many localities with mowers, harvesters, tractors, thrashing machines, and other farm machinery.

The Department of Agriculture has published a bulletin on "Labor-Saving Practices in Haymaking," which will be sent to any one interested.

## PLOWING



FIG. 1.—The one-horse turning plow is still in common use in some parts of the country. Except on very small farms, where one horse does all the work, it nearly always will be profitable to replace such a plow with a larger one. One man with a plow twice the size of those shown above, and the same two horses, would do practically the same amount of plowing in a day, or season, as is done by the two one-horse outfits, should do better work, and should do it more easily.



FIG. 2.—In cases like this, where there is more plowing than can be done in the available time by one single-bottom plow of the largest size, the use of two-bottom gang plows, like the one shown in figure 3, will do the work in the same time with just half the labor. With three such gang plows, three men could be saved from the above outfits to do other work.

## PLOWING



FIG. 3.—Four horses can pull a two-bottom plow as easily as two can pull a single bottom of corresponding size. Because it enables a farmer to do what is generally the heaviest work of the year with half the help that would be required if single-bottom plows were used, the gang plow has come into use on a great many farms. In hot weather or where the plowing is hard, five or even six horses are often used for power. But even this outfit cannot compete with the one shown in figure 4.



FIG. 4.—Experienced tractor users say that they do just as good plowing with the tractor as they did with horses, or even better, and a three- or four-plow tractor enables the farmer who has more plowing than can be done with the largest horse-drawn plow further to increase the amount of work which one man can do. Consequently one man with a three-plow tractor usually covers a little more ground per day than three men with single plows, and one man with a four-plow tractor does more than two men with horse-drawn gang plows like the one shown in figure 3. The tractor works just as well in hot weather, and if desired can be worked 24 hours a day with two shifts of men, a big advantage over the horse outfits shown in the preceding pictures.

## HARROWING

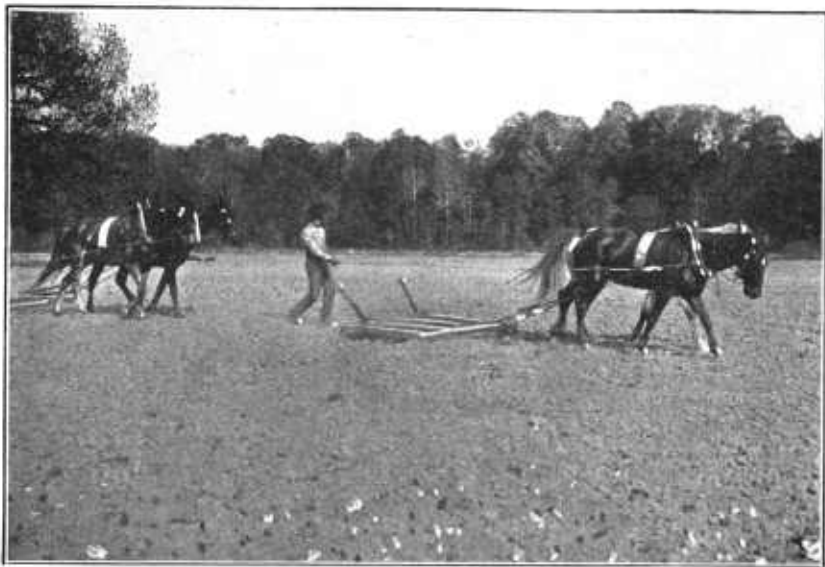


FIG. 5.—The spike-tooth harrow is an implement of comparatively light draft, and sometimes it is possible to put an extra section to such a harrow, thereby increasing considerably the extent of ground covered without the addition of any horses to the team. Or the farmer who has been using two two-horse harrows, like those above, can combine the two harrows, hitch the four horses as one team, and drive them all himself, thereby releasing the second man for other work. Compare the amount of work done by the above outfit with that done by the outfit in figure 6.

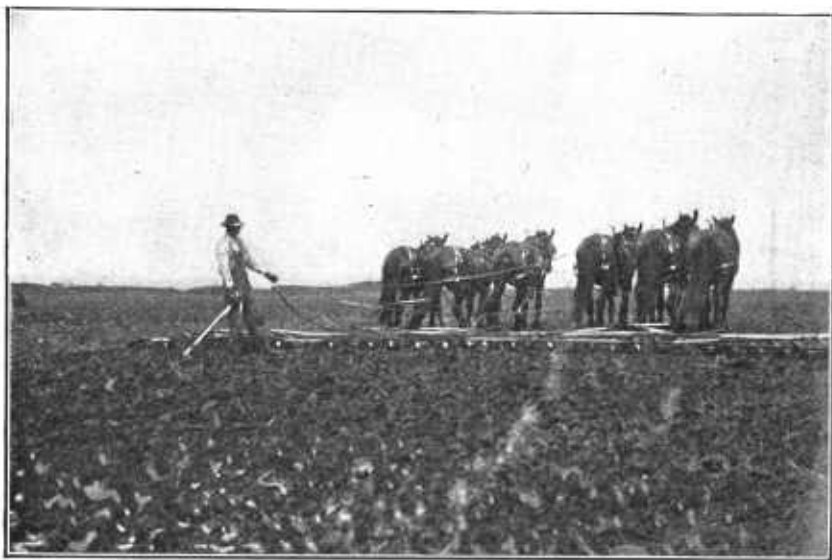


FIG. 6.—This man covers about three times as much ground in a day as does the man who uses only a two-horse harrow, as in figure 5, and no doubt the quality of the work is just as good. As far as the men are concerned, about the only difference is that the driver of the large team handles four lines instead of two.



## DISKING

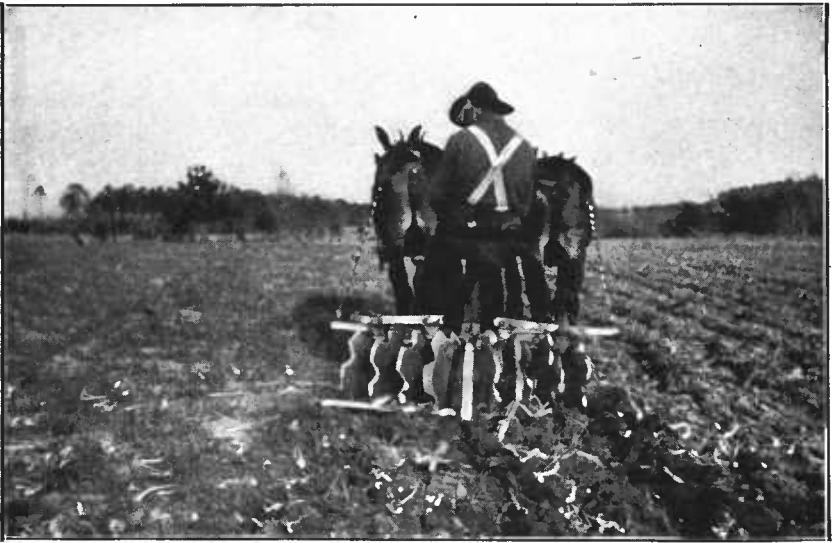


FIG. 7.—The disk harrow, both single and double, is found in a wide range of width, and for from two to eight horses. The use of the narrow disk drawn by two horses, such as that shown above, is not advisable unless only two horses are available for power and the amount of disking to be done is small. Compare this disk with the outfit shown in figure 8.



FIG. 8.—The harrow shown here, drawn by four horses, is twice the size of the one shown in figure 7 and under similar conditions will do twice as much work with the same man power.

The use of a gang plow drawn by four or more horses, and big implements and teams for harrowing, rolling, etc., enables one man to prepare for planting practically twice as much land in the same length of time as would be possible if he used the traditional two-horse method for his work.

## HAULING MANURE



FIG. 9.—Hauling manure in a wagon-box and spreading it on the field by hand is harder and more disagreeable work and takes considerably more time than when a spreader is used as in figure 10.



FIG. 10.—The work of loading the manure and the time required for hauling to the field with the manure spreader are about the same as with the ordinary wagon-box, as in figure 9, but the spreader will unload and spread it in a third of the time required for doing it by hand and will generally do a somewhat better job. Additional time can be saved, especially where the distance to haul is great, by providing a larger-sized spreader and using three or four horses. On farms where hauling manure requires a relatively small number of days per year, and the farmer thinks that the amount of work to be done does not justify the purchase of a manure spreader, he may sometimes be able to rent one from a neighbor at a nominal rate.

## PLANTING CORN

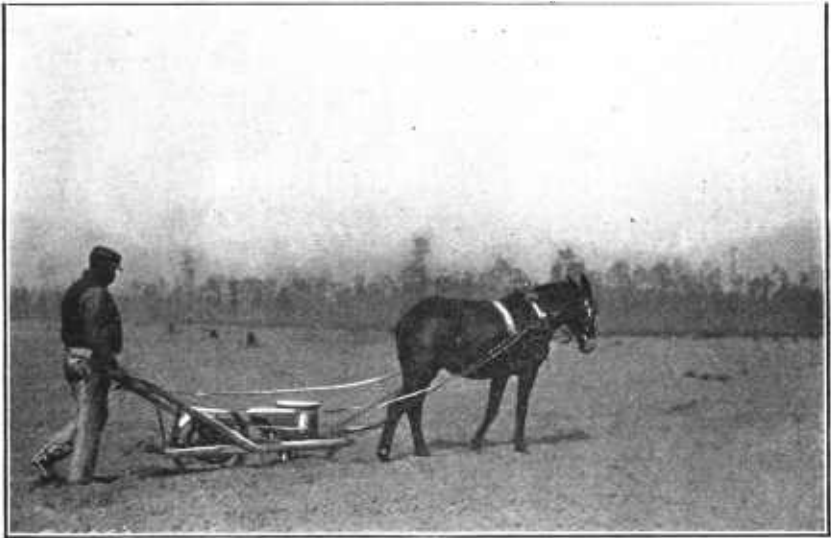


FIG. 11.—The one-horse one-row corn planter is a companion to the one-horse turning plow, and, while considerably better than planting by hand, it is an inefficient implement when compared to the two-horse, two-row planter shown in figure 12.



FIG. 12.—Under most conditions one man with a two-row planter will do twice as much as with a one-row outfit, as in figure 11. Where the corn is drilled, and cultivated only one way, a grain drill with feed holes properly stopped is often used for this work. It will seed as many acres in a given time as the regular two-row corn planter.

## CULTIVATING



FIG. 13.—Each two-horse, one-row cultivator saves one man's time as compared with the old-fashioned one-horse cultivator, with which it is necessary to make two trips across the field for every row; but on farms where there is more cultivating than can be done by one one-row cultivator, the three- or four-horse two-row cultivator shown in figure 14 offers a further opportunity for saving labor.



FIG. 14.—The two-row cultivator is being used successfully on a great many farms in the Corn Belt. Considerable care on the part of the operator is necessary when the corn is small and when going crosswise in checked corn, but even then it is possible to do practically as good work and cover nearly twice as much ground with it in a day as with a one-row implement like those in figure 13.

A two-bottom gang plow and a two-row cultivator, supplemented by big implements for preparing the soil and for planting, will enable one man to tend twice as many acres of corn as would be possible if two-horse teams and implements were used exclusively.

## HARVESTING GRAIN

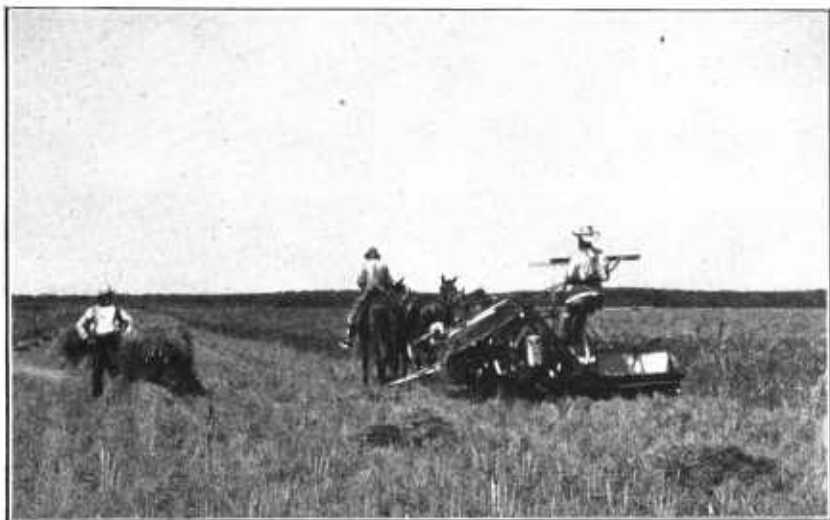


FIG. 15.—This illustration shows a common method of harvesting small grain. The binder is not provided with a bundle carrier, and a man is riding the third horse of the team, the man on the binder driving only two. With a little training and the proper arrangement of the lines, all three horses could doubtless be driven by the man on the binder, thus saving one man's time. The use of a bundle carrier as in figure 16 would relieve the shockers of most of the carrying and greatly increase their efficiency



FIG. 16.—The man driving the binder shown here is accomplishing more than both the man on the binder and the man riding the horse in figure 15. He is handling the machine and team by himself and also leaving the bundles in orderly piles which facilitate shocking. The saving effected by the bundle carrier is greatest where the yields are light and some bundles must be carried long distances in order to get enough together for a shock. A gasoline engine to operate the binder, the horses hauling the machine only, would render possible a larger amount of work with the binder under certain conditions.

## CUTTING CORN



FIG. 17.—Where the acreage of corn to be cut is such that one man can do it by hand, this is the most economical method. But cutting and shocking corn by hand is a hard, disagreeable job, as compared to most other farm work, and it is such a big job and the time available for doing it so limited, that on many farms extra help must be employed for this work. Corn-cutting machinery like that in figure 18 often could be used to advantage in such cases.



FIG. 18.—With a corn binder and three horses in corn that is standing well, three men, one to drive the binder and two to shock, can do about 50 per cent more than when cutting by hand. In cutting corn for silage, one man with a corn binder under favorable conditions can do about as much as three men cutting by hand like the man in figure 17. There is also an advantage in having the corn in bundles, as this makes it considerably easier to handle, both in loading on the wagons and at the ensilage cutter.

## HUSKING CORN



FIG. 19.—Husking corn from the standing stalks is one of the biggest jobs where corn is a principal crop and there is not enough live stock to utilize fully all the stover. In many cases this work has been done almost exclusively by extra labor hired by the day or bushel. It is better to let the horses do it as in figure 20.



FIG. 20.—In corn that is standing well, the mechanical picker will reduce appreciably the amount of labor required for this work. Then, too, old men or boys who would be able to do only a small amount of work in husking by hand can do just as good and as much work with the machine as higher class help. About seven acres seems to be a fair day's work for a mechanical picker and its crew of three men and three teams. Two wagons will be required, one unloading, while the other is being filled. This makes 350 bushels in corn yielding 50 bushels per acre, and it takes four high-class men husking by hand, as in figure 19, to average this amount throughout the season. The amount of ground covered per day by the machine will be about the same, no matter what the yield; consequently the advantage derived from its use is somewhat greater in heavy corn than where the yield is low.

## DIGGING POTATOES



FIG. 21.—Digging potatoes by hand is not only hard work but much slower than the method shown in figure 22.



FIG. 22.—Digging potatoes by horse power with a good potato digger beats digging by hand, as shown in figure 21.



## **Better Use of Man Labor on the Farm**

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